

AMENDMENT TO THE CLAIMS

1. (Canceled) A micro-dialysis probe which includes a supply line and a drainage line for a drip-feed solution and a dialysis section, wherein the flow channel for said drip-feed solution experiences an inversion in the area of said dialysis section between said supply line and said drainage line, characterised in that both said supply line and said drainage line are respectively arranged as separate hollow channels on the outer wall of said probe, side by side, in particular parallel.
2. (Canceled) The micro-dialysis probe as set forth in claim 1, characterised in that the first section of said drainage line in the direction of the flow consists of a dialysis hollow fibre penetrating into said supply line behind said inversion, said hollow fibre being fastened in the area of the sealed tip of said probe such that a linear course of flow is achieved after said inversion, while at its other end it is sealed into a second stable tube of the drainage line.
3. (Canceled) The micro-dialysis probe as set forth in claim 2, characterised in that the part of said tube in the area of said tip of said probe which lies over said hollow fibre forms a supporting section.
4. (Canceled) The micro-dialysis probe as set forth in claim 2, characterised in that said hollow fibre is formed to be replaceable and is sealed in, said tube and in particular said supporting section comprising recesses via which said hollow fibre is exposed outwards.
5. (Canceled) The micro-dialysis probe as set forth in claim 1, characterised in that the flow channel for said drip-feed solution consists of a hollow fibre with a supporting profile inserted into it, which separates said supply line and said drainage line from each other, said supporting profile comprising overflow openings in the area of flow inversion.
6. (Canceled) The micro-dialysis probe as set forth in claim 5, characterised in that said hollow fibre, at the supply line end and drainage line end of said probe is sealed into a

probe shaft which accommodates and continues said supply line and said drainage line separately.

7. (Canceled) The micro-dialysis probe as set forth in claim 5, characterised in that said profile is formed star-shaped, in particular as a three- or four-armed star.
8. (Canceled) The micro-dialysis probe as set forth in claim 5, characterised in that said profile is formed flat.
9. (Canceled) The micro-dialysis probe as set forth in claim 8, characterised in that said profile comprises bristles or knobs on at least one of its flat sides, to support said hollow fibre.
10. (Canceled) The micro-dialysis probe as set forth in any one of claims 1 to 9, characterised in that said supply line and/or said drainage line have a substantially linear course.
11. (Canceled) A micro-dialysis probe which includes a supply line and a drainage line for a drip-feed solution and a dialysis section, wherein the flow channel for the drip-feed solution experiences an inversion in the area of the dialysis section between the supply line and the drainage line, wherein both said supply line and said drainage line are arranged as separate hollow channels on the outer wall of said probe, side by side, in parallel.
12. (Canceled) The micro-dialysis probe as set forth in claim 11, wherein said supply line and said drainage line have a substantially linear course.
13. (Canceled) The micro-dialysis probe as set forth in claim 11, wherein a first section of said drainage line in the direction of the flow consists of a dialysis hollow fibre penetrating into said supply line behind said inversion, said hollow fibre being fastened in the area of the sealed tip of said probe such that a linear course of flow is achieved after said inversion, while at its other end it is sealed into a second stable tube of the drainage line.

14. (Canceled) The micro-dialysis probe as set forth in claim 13, wherein the part of said tube in the area of said tip of said probe which lies over said hollow fibre forms a supporting section.

15. (Canceled) The micro-dialysis probe as set forth in claim 13, wherein said hollow fibre is formed to be replaceable and is sealed in said tube, in particular in said supporting section which comprises recesses via which said hollow fibre is exposed outwards.

16. (Canceled) The micro-dialysis probe as set forth in claim 11, wherein the flow channel for said drip-feed solution consists of a hollow fibre with a supporting profile, which separates said supply line and said drainage line from each other, said supporting profile comprising overflow openings in the area of flow inversion.

17. (Canceled) The micro-dialysis probe as set forth in claim 16, wherein said hollow fibre, at the supply line end and drainage line end of said probe is sealed into a probe shaft which accommodates and continues said supply line and said drainage line separately.

18. (Canceled) The micro-dialysis probe as set forth in claim 16, wherein said profile is star-shaped.

19. (Canceled) The micro-dialysis probe as set forth in claim 16, wherein said profile is star-shaped, as one of a three-armed star and a four-armed star.

20. (Canceled) The micro-dialysis probe as set forth in claim 16, wherein said profile flat.

21. (Canceled) The micro-dialysis probe as set forth in claim 20, wherein said profile comprises bristles or knobs on at least one of its flat sides to support said hollow fibre.

22. (Canceled) The micro-dialysis probe as set forth in claim 21, wherein said supply line and said drainage line have a substantially linear course.

23. (Canceled) A micro-dialysis probe comprising a supply line and a drainage line for providing a flow channel for a drip-feed solution, wherein said supply line and said drainage line are arranged as separate, generally side by side and parallel hollow channels on a wall of said probe.

24. (Canceled) The micro-dialysis probe as set forth in claim 23, further comprising a dialysis section, wherein the flow channel for the drip-feed solution experiences an inversion in the area of the dialysis section between the supply line and the drainage line.

25. (Canceled) The micro-dialysis probe as set forth in claim 23, wherein said supply line and said drainage line have a substantially linear course.

26. (Canceled) A micro-dialysis probe comprising a flow channel for a solution, said flow channel comprising a hollow fibre, a supply line and a drainage line, wherein the supply line and drainage line are separated by the hollow fibre, and wherein the drainage line, supply line and hollow fibre form a part of an outer wall of the probe.

27. (Canceled) The micro-dialysis probe of claim 26, wherein the supply line and drainage line are integrated by a fixing material.

28. (New) A micro-dialysis probe comprising:

a proximal probe opening providing access to a supply line and a drainage line;

a distal probe tip for introducing the probe into subcutaneous tissue;

a supply line for introducing drip-feed solution into the probe, the supply line having a dialysis opening in the vicinity of the probe tip;

a drainage line formed as a hollow fiber, the hollow fiber being exposed to surrounding tissue in the vicinity of the probe tip;

a dialysis section being formed between the supply line and the drainage line in the area of the supply line dialysis opening and the exposure of the hollow fiber to surrounding tissue;

the drip-feed solution flowing through the supply line experiencing an inversion in the area of the dialysis section and between the supply line and the drainage line,

the supply line and drainage line together forming a probe shaft, the supply line and the drainage line being arranged as separate hollow channels of the probe shaft.

29. (New) The micro-dialysis probe of claim 28, wherein the probe tip is pointed and sealed with a sealing material.

30. (New) The micro-dialysis probe of claim 28, wherein the supply line and the drainage line are fixed to one another using a fixing material in the area of the probe shaft between the proximal probe opening and the dialysis section.

31. (New) The micro-dialysis probe of claim 28, further including a tube surrounding the drainage line, the tube having recesses to expose the hollow fiber to surrounding tissue in the vicinity of the probe tip.

32. (New) The micro-dialysis probe of claim 31, wherein the supply line and the drainage line, together with the tube surrounding the drainage line, are fixed to one another using a fixing material in the area of the probe shaft between the proximal probe opening and the dialysis section.

33. (New) The micro-dialysis probe of claim 28, wherein the supply line and the drainage line each extend substantially linearly.

34. (New) The micro-dialysis probe of claim 28, wherein the supply line and the drainage line are arranged substantially side-by-side.

35. (New) The micro-dialysis probe of claim 28, wherein the hollow fiber of the drainage line penetrates into the supply line proximally of the inversion, the hollow fiber being fixed in the area of the probe tip such that a linear course of flow is achieved distal of the inversion, while proximally of the inversion the hollow fiber is sealed in a tube surrounding the drainage line.

36. (New) The micro-dialysis probe of claim 35, wherein a section of the tube lies over the hollow fiber in the area of the probe tip and thereby forms a supporting section for the hollow fiber.

37. (New) The micro-dialysis probe of claim 36, wherein the supply line and supporting section together form an outer framework that shields the hollow fiber from surrounding tissues.

38. (New) The micro-dialysis probe of claim 28, wherein the hollow fiber is formed to be replaceable and is sealed in the tube.

39. (New) The micro-dialysis probe of claim 28, wherein the shaft formed by the supply line and the drainage line further includes a supporting profile for separating the supply line and the drainage line from each other, the supporting profile including overflow openings in the area of flow inversion.

40. (New) The micro-dialysis probe of claim 39, wherein the profile is star-shaped.

41. (New) The micro-dialysis probe of claim 40, wherein the profile is star-shaped as a three-armed star.

42. (New) The micro-dialysis probe of claim 40, wherein the profile is star-shaped as a four-armed star.

43. (New) The micro-dialysis probe of claim 39, wherein the profile is flat.

44. (New) The micro-dialysis probe of claim 43, wherein the profile comprises bristles or knobs on at least one of its flat sides to support the hollow fiber.

45. (New) The micro-dialysis probe of claim 44, wherein the supply line and the drainage line each extend substantially linearly.

46. (New) A micro-dialysis probe comprising:
a probe shaft having a proximal end and a distal probe tip;
a hollow fiber forming a supply line for introducing drip-feed solution into the probe and a drainage line, the supply line and drainage line being arranged as separate hollow channels of the probe shaft and together being formed by the shaft itself, the supply line and the drainage line extending substantially side-by-side;
a supporting profile inserted into the hollow fiber, the supporting profile separating the supply line from the drainage line, the supporting profile at least one overflow opening, the drip-feed liquid flowing from the supply line into the drainage line in the area of the overflow opening, the drip-feed liquid there experiencing an inversion.
47. (New) The micro-dialysis probe of claim 46, further comprising a primary dialysis section in the area of flow inversion between the supply line and the drainage line.
48. (New) The micro-dialysis probe of claim 46, further comprising a dialysis section extending from the shaft to the probe tip and within both the supply line and the drainage line.
49. (New) The micro-dialysis probe of claim 46, wherein the supply line and the drainage line extend substantially linearly.
50. (New) The micro-dialysis probe of claim 46, wherein the supply line and the drainage line are arranged substantially side-by-side.
51. (New) The micro-dialysis probe of claim 46, wherein the drainage line comprises two drainage channels.
52. (New) The micro-dialysis probe of claim 46, wherein the supply line is accommodated by a supply hose inserted in the probe shaft.
53. (New) The micro-dialysis probe of claim 46, wherein the drainage line is accommodated by a drainage hose inserted in the probe shaft.

54. (New) The micro-dialysis probe of claim 46, wherein the supply line and drainage line are integrated by a fixing material.

55. (New) The micro-dialysis probe of claim 46, further including a supporting profile for separating the supply line and the drainage line from each other, the supporting profile including overflow openings in the area of flow inversion.

56. (New) The micro-dialysis probe of claim 55, wherein the profile is star-shaped.

57. (New) The micro-dialysis probe of claim 56, wherein the profile is star-shaped as a three-armed star.

58. (New) The micro-dialysis probe of claim 56, wherein the profile is star-shaped as a four-armed star.

59. (New) The micro-dialysis probe of claim 55, wherein the profile is flat.

60. (New) The micro-dialysis probe of claim 59, wherein the profile comprises bristles or knobs on at least one flat side to support the hollow fiber.

61. (New) A micro-dialysis probe comprising:

a proximal probe opening providing access to a supply line and a drainage line;

a distal probe tip for introducing the probe into subcutaneous tissue;

a supply line for introducing drip-feed solution into the probe,

a drainage line;

a dialysis section being formed between the supply line and the drainage line;

the drip-feed solution flowing through the supply line in a flow direction, the flow direction being reversed in the area of the dialysis section and between the supply line and the drainage line.

62. (New) The micro-dialysis probe of claim 61, wherein the drainage line is formed as a hollow fiber, the hollow fiber being exposed to surrounding tissue in the area of the dialysis section.

63. (New) The micro-dialysis probe of claim 62, further including a tube surrounding the drainage line, the tube having recesses to expose the hollow fiber to surrounding tissue in the area of the dialysis section.

64. (New) The micro-dialysis probe of claim 63, wherein the hollow fiber is formed to be replaceable and is sealed in the tube.

65. (New) The micro-dialysis probe of claim 61, wherein the supply line and the drainage line each extend substantially linearly.

66. (New) The micro-dialysis probe of claim 61, wherein the supply line and the drainage line are arranged substantially side-by-side.

67. (New) The micro-dialysis probe of claim 61, wherein the supply line and the drainage line are formed by a hollow fiber.

68. (New) The micro-dialysis probe of claim 67, wherein the supply line and the drainage line extend substantially side-by-side.

69. (New) The micro-dialysis probe of claim 67, wherein the supply line and the drainage line extend substantially linearly.

70. (New) The micro-dialysis probe of claim 67, further including a supporting profile for separating the supply line and the drainage line from each other, the supporting profile including overflow openings in the area in which the flow direction is reversed.

71. (New) The micro-dialysis probe of claim 67, wherein the profile is star-shaped.

72. (New) The micro-dialysis probe of claim 71, wherein the profile is star-shaped as a three-armed star.

73. (New) The micro-dialysis probe of claim 71, wherein the profile is star-shaped as a four-armed star.

74. (New) The micro-dialysis probe of claim 67, wherein the profile is flat.

75. (New) The micro-dialysis probe of claim 74, wherein the profile comprises bristles or knobs on at least one flat side to support the hollow fiber.

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